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The Use of Artesunate in a child with acute myocarditis caused by HHV 6 virus

*Hakacova N., Higgins T,
Children's Heart Centre
University Hospital Skåne
Lund, Sweden*

Artesunate is an antimalarial drug derived from a plant, *Artemisia annua* and in vitro and sporadic human subjects shown to have antiviral activity. The drug has been used for multidrug resistant human cytomegalovirus. We report the use of artesunate in a one year old child in heart failure due to an acute viral myocarditis caused by Human Herpes Virus-6 (HHV 6) which did not respond to standard therapy.

The child developed signs and symptoms of an HHV-6 infection and was in severe heart failure one week later. IgM and IgG were positive for HHV-6. The child was treated with inotropics, diuretics, immunoglobulin and gancyclovir without signs of improvement after four weeks of therapy.

A left ventricular assist device (LVAD) was implanted for unloading the left ventricle. The myocardial biopsy showed fresh myocyte necrosis with inflammation and CD3 positive lymphocytes and CD 68 positive macrophages expressing enhanced amounts of MHC class II molecules. The presence of HHV-6 was found in the myocytes. Artesunate was given orally 10 mg/kg/day for 10 days. The control biopsy showed no signs of active inflammation and some myocardial recovery. The treatment had no observed side-effects. The heart recovery permitted successful explantation of the LVAD and discharge.

Conclusion: Artesunate was used in a child with HHV-6 myocarditis and severe heart failure. The biopsy and clinical status improved. No side effects of artesunate were noted.